

In the Specification:

Please replace the paragraph beginning on page 1, line 16 as follows:

B  
Hitherto, as memory devices of a computer, there are widely used disk ~~unites~~ units such as a magnetic disk unit and a magneto-optical disk unit. The disk unit is restricted in a using temperature range to, for example, 5°C~55°C. Further, also with respect to the temperature variation of the using environment, a temperature gradient is restricted to be not larger than 20°C per hour. In this manner, the disk unit is ensured ~~in~~ a normal operation in such a manner that a user side of the disk unit pays one's attention with respect to the using environment.

Please replace the paragraph beginning on page 2, line 4 as follows:

2  
3  
However, for example, in the event that the magnetic disk unit is loaded onto a car, the using environment is greatly changed from that in a room. There is a high possibility that the magnetic disk unit is placed under an extremely low temperature of less than -30°C and an extremely high temperature of more than 80°C. This involves such a problem that the magnetic disk unit, which is restricted in a using temperature range to 5°C~55°C, is no longer usable.

Please replace the paragraph beginning on page 7, line 7 as follows:

3  
B  
Fig. 5 is a flowchart useful for understanding a writing operation by a ~~writing~~ firm writing firmware.

Please replace the paragraph beginning on page 8, line 17 as follows:

B4  
A magnetic disk unit 10 shown in Fig. 2 has such a structure that the movable section 11 also shown in Fig. 1 is disposed at the center, the periphery of the movable section 11 is covered by a first outline 31, and the first outline 31 is covered by a second outline ~~32~~ 41.

Please replace the paragraph beginning on page 8, line 22 as follows:

B5  
In this manner, the magnetic disk unit 10 is covered by a double-structure of outline comprising the first outline 31 and the second outline ~~32~~ 41. This structure makes it possible in conjunction with means for heating and cooling and the like, which will be described later, to place the movable section 11 under the good operating environment.

Please replace the paragraph beginning on page 16, line 8 as follows:

B6  
Of the temperature and humidity detected in the step a1, when the temperature is not less than 80°C (step a2), the process goes to a step a3 in which since it exceeds the operating environment, ~~it is informed~~ the host system is informed that the magnetic disk unit is not operable, and in order to prevent the magnetic disk unit from being damaged, the magnetic disk unit is stopped in operation. Further, in view of circumstances, there is a possibility that the heater and the Peltier element are operated, and thus instructions for stop of the operation of the heater and the Peltier element are issued. Furthermore, there is a possibility that the heat generating operation of the DCM and the VCM is performed, and

B6  
thus instructions for stop of the heat generating operation of the DCM and the VCM are issued.

---

Please replace the paragraph beginning on page 16, line 23 as follows:

---

When the temperature is less than 80°C and not less than 55°C (step a4), the process goes to a step a5 in which ~~it is informed~~ the host system is informed that it is now cooling, and the Peltier element 24 performs the cooling operation. In view of circumstances, there is a possibility that the heat generating operation of the DCM and the VCM is performed, and thus instructions for stop of the heat generating operation of the DCM and the VCM are issued, and the selector 303 shown in Fig. 2 is switched so that the operational clock of 66 MHz is fed to the CPU 231 to suppress the generation of heat of the control circuit. Further, a "writing confirmation necessity" is informed ~~a writing firm~~ writing firmware. The "writing confirmation necessity" will be described later in conjunction with a flowchart of Fig. 5.

---

Please replace the paragraph beginning on page 18, line 7 as follows:

---

B8  
In the step a7, further, a "writing confirmation ~~no~~ not necessity" is informed the ~~writing firm~~ writing firmware. In addition, up to here, in view of circumstances, there is a possibility that the outline doors (two doors 34 and 44 shown in Fig. 2) are opened, and thus the outline doors are closed.

---

Please replace the paragraph beginning on page 18, line 13 as follows:

When the temperature is less than 5°C and not less than -10°C or the humidity is not less than 80% (step a8), the process goes to a step a9 in which ~~it is informed~~ the host is informed system that the magnetic disk unit is in weak heating, and the heat generating operation of the heater is performed. With respect to the Peltier element, in view of circumstances, there is a possibility that the heat generating operation of the Peltier element is performed, and thus the heat generating operation of the Peltier element is stopped. The heat generating operation of the DCM and the VCM is performed. In order to increase generating heat of the control circuit, the oscillator is changed over to 100 MHz. A “writing confirmation necessity” is informed ~~a writing firm~~ writing firmware, and in order to prevent condensation, the outline door is opened.

Please replace the paragraph beginning on page 19, line 1 as follows:

Further, when the temperature is less than -10°C and not less than -30°C (step a10), the process goes to a step a11 in which ~~it is informed~~ the host is informed system that the magnetic disk unit is in strong heating, and the heat generating operation of both the heater and the Peltier element is performed. The heat generating operation of both the DCM and the VCM is performed. The oscillator is changed over to 100 MHz.

Please replace the paragraph beginning on page 19, line 19 as follows:

Furthermore, when the temperature is less than -30°C (step a10), the process

B11  
goes to a step a12 in which ~~it is informed~~ the host is informed system that the magnetic disk unit is not to be operated, and in order to avoid damage of the magnetic disk unit, the operation of the magnetic disk unit is stopped, and operation of the heater and the Peltier element and heat generating operation of both the DCM and the VCM are stopped.

Please replace the paragraph beginning on page 20, line 4 as follows:

B12  
Fig. 5 is a flowchart useful for understanding a writing operation by a ~~writing~~ firm writing firmware.

Please replace the paragraph beginning on page 23, line 25 as follows:

(A) 13  
Fig. 10 shows an example of an outline of a double-structure, in which silica gel (dehumidifying and moisture absorption agent) or ~~grass~~ glass wool (heat-insulating agent) is filled up between the first outline 31 and the second outline 41. In this case, there is no need that the first outline 31 and the second outline 41 are a rigid body, and it is acceptable that they are a flexible material (for example, ones made of thin vinyl). In this manner, even if the movable section 11 (cf. Fig. 2) is constructed with such a structure that dehumidifying and moisture absorption agent or heat-insulating agent is filled up between the first outline and the second outline, it is possible to stabilize environments of the movable section 11 with a considerable degree regardless of variation of the external environment.

In the Claims:

Please amend claims 1, 8, 11, 13, 16, 18, 23, 26, 28, 29, and 32, and cancel claim 32-34, without prejudice. The status of the claims is as follows:

---

1. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a temperature sensor for detecting a temperature; ~~and~~

heating means for ~~heating~~ generating heat when said temperature sensor detects a temperature which is less than a predetermined first temperature-;

a control circuit for controlling said heating means to generate heat when said temperature is less than said predetermined first temperature; and

an outline for housing at least said temperature sensor, said heating means and said control circuit.

2. (Original) A disk unit according to claim 1, wherein said disk unit further comprises a first motor for driving said disk, and said heating means includes means for heating by conducting a current through a fixed phase of said first motor.

3. (Original) A disk unit according to claim 1, wherein said disk unit further comprises a second motor for driving said arm, and said heating means includes means for heating by conducting through said second motor a current which is unnecessary for operation of said arm.

4. (Original) A disk unit according to claim 1, wherein said heating means includes a heater.

5. (Original) A disk unit according to claim 1, wherein said heating means includes a Peltier element.

6. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a temperature sensor for detecting a temperature;

a clock generating circuit for generating a plurality of sorts of operational clocks which are mutually different in frequency; and

a control circuit for controlling an operation of said disk unit in such a manner that upon receipt of any one sort of operational clock from said clock generating circuit, a processing is performed at a processing speed according to a frequency of the received

operational clock, wherein said control circuit operates at a different operational clock in accordance with a temperature detected by said temperature sensor-; and

an outline for housing at least said temperature sensor, said clock generating circuit and said control circuit.

7. (Original) A disk unit according to claim 1, wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature which is less than the first temperature, said communication circuit informs the host that heating is performed.

8. (Currently Amended) A disk unit according to claim 1, wherein said ~~disk unit further comprises a control circuit for controlling controls~~ an operation of said disk unit, and when said temperature sensor detects a temperature which is less than a predetermined second temperature lower than the first temperature, said control circuit stops the operation of said disk.

9. (Original) A disk unit according to claim 8, wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature which is less than the second temperature, said communication circuit informs the host that said disk unit is not operable.



10. (Original) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a temperature sensor for detecting a temperature;

a control circuit for controlling an operation of said disk unit; and

an outline having a door which opens and closes in accordance with a control,

wherein said control circuit causes said door to open when said temperature sensor detects a temperature which is less than a predetermined temperature.

314  
11. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a temperature sensor for detecting a temperature; and

an access circuit for accessing said disk; and

an outline for housing at least said temperature sensor and said access circuit;

wherein said access circuit performs, when writing of data into said disk is performed in a case where said temperature sensor detects a temperature which is out of a predetermined temperature range, a writing confirmation operation for comparing written data with read data through reading data written into said disk.

12. (Original) A disk unit according to claim 11, wherein said access circuit again writes the written data into a same area on said disk and again reads the written data in a case where it is decided by the writing confirmation operation that the written data is not coincident with the read data, and said access circuit writes the written data into a different area on said disk in a case where it is again decided by the writing confirmation operation that the written data is not coincident with the read data.

B14  
13. (Currently Amended) ~~A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:~~ A disk unit according to claim 1, further comprising:

~~a temperature sensor for detecting a temperature; and~~

~~a heat generation suppressing means for suppressing generation of heat when said temperature sensor detects a temperature exceeding a predetermined third temperature lower higher than said predetermined first temperature.~~

14. (Original) A disk unit according to claim 13, wherein said heat generation suppressing means includes a Peltier element.

15. (Original) A disk unit according to claim 13, wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature exceeding the third temperature, said communication circuit informs the host that generation of heat is suppressed.

16. (Currently Amended) A disk unit according to claim 1, wherein said ~~disk unit further comprises a control circuit for controlling~~ controls an operation of said disk unit, and when said temperature sensor detects a temperature exceeding a predetermined fourth temperature which is higher than the third temperature, said control circuit stops the operation of said disk.

17. (Original) A disk unit according to claim 16, wherein said disk unit further comprises a communication circuit for communication with a host, and when said temperature sensor detects a temperature exceeding the fourth temperature, said communication circuit informs the host that said disk unit is not operable.

18. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a humidity sensor for detecting a humidity; and

heating means for ~~heating~~ generating heat when said humidity sensor detects a humidity exceeding a predetermined humidity; and

a control circuit for controlling said heating means to generate heat when said temperature is less than said predetermined humidity; and

an outline for housing at least said humidity sensor, said heating means and said control circuit.

19. (Original) A disk unit according to claim 18, wherein said disk unit further comprises a first motor for driving said disk, and said heating means includes means for heating by conducting a current through a fixed phase of said first motor.

20. (Original) A disk unit according to claim 18, wherein said disk unit further comprises a second motor for driving said arm, and said heating means includes means for heating by conducting through said second motor a current which is unnecessary for operation of said arm, at time of stop of operation of said arm.

21. (Original) A disk unit according to claim 18, wherein said heating means includes a heater.

22. (Original) A disk unit according to claim 18, wherein said heating means includes a Peltier element.

23. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a humidity sensor for detecting a humidity;

a clock generating circuit for generating a plurality of sorts of operational clocks which are mutually different in frequency; and

B14  
a control circuit for controlling an operation of said disk unit in such a manner that upon receipt of any one sort of operational clock from said clock generating circuit, a processing is performed at a processing speed according to a frequency of the received operational clock, wherein said control circuit operates at a different operational clock in accordance with a humidity detected by said humidity sensor; and

an outline for housing at least said humidity sensor, said clock generating circuit and said control circuit.

24. (Original) A disk unit according to claim 18, wherein said disk unit further comprises a communication circuit for communication with a host, and when said humidity sensor detects a humidity exceeding the predetermined humidity, said communication circuit informs the host that heating is performed.

25. (Original) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a humidity sensor for detecting a humidity;

a control circuit for controlling an operation of said disk unit; and

an outline having a door which opens and closes in accordance with a control,

wherein said control circuit causes said door to open when said humidity sensor detects a humidity exceeding a predetermined humidity.

26. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a humidity sensor for detecting a humidity; and

an access circuit for accessing said disk; and

an outline for housing at least said humidity sensor and said access circuit;

wherein said access circuit performs, when writing of data into said disk is performed in a case where said humidity sensor detects a humidity exceeding a predetermined humidity, a writing confirmation operation for comparing written data with read data through reading data written into said disk.

27. (Original) A disk unit according to claim 26, wherein said access circuit again writes the written data into a same area on said disk and again reads the written data in a case where it is decided by the writing confirmation operation that the written data is not coincident with the read data, and said access circuit writes the written data into a different area on said disk in a case where it is again decided by the writing confirmation operation that the written data is not coincident with the read data.

B14  
28. (Currently Amended) A disk unit in which an arm having a head on a top is actuated, while a disk is rotated, so that a position of the head is moved with respect to the disk to perform write and read of data to and from the disk by the head, said disk unit comprising:

a double-structure of outline having a top, a bottom, comprising a first outline and a second outline surrounding said first outline; and

a dehumidifying agent provided in a space between the first outline and the second outline;

wherein said top and said bottom are in fluid communication via said space.

29. (Currently Amended) A disk unit according to claim 28, further including a heat-insulating body provided in said space between the first outline and the second outline.

30. (Canceled)

31. (Currently Amended) A disk unit according to claim 28, wherein each of the first outline and the second outline has an air vent, and said disk unit further comprises means for blocking or relatively lowering a flow of air in an area coupling the air vent of the first outline with the air vent of the second outline, of a said space formed between the first outline and the second outline.

B14

32. (Canceled)

33. (Canceled)

34. (Canceled)